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SEQUENCE LISTING

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Morsey, Mohamad

<120> IMMUNOLOGICAL METHODS TO MODULATE MYOSTATIN IN
VERTEBRATE SUBJECTS

<130> 9001-0042.01

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<150> 09/252,149

<151> 1999-02-18

<160> 39

<170> PatentIn Ver. 2.0

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<211> 1128

<212> DNA

<213> bos taurus

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gcatgtttgt ggagggaaaa cactacatcc tcaagactag aagccataaa aatccaaatc 180

ctcagtaaac ttgcgcctgga aacagctcct aacatcagca aagatgctat cagacaactt 240

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aggcgtgacg gtccttgga agacgtatgac taccacgcca ggacggaaac ggtcattacc 360

atgcccacgg agtctgatct tctaacgcaa gtggaaggaa aacccaaatg ttgcttcttt 420

aaatttagct ctaagataca atacaataaa ctagtaaagg cccaaactgtg gatatatctg 480

aggcctgtca agactcctgc gacagtgtt gtgcaaattcc tgagactcat caaaccatg 540

aaagacggta caaggatatac tggaaatccga tctctgaaac ttgacatgaa cccaggcact 600

ggtatattggc agagcattga tgtgaagaca gtgtgcaga actggctcaa acaacctgaa 660

tccaaacttag gcattgaaat caaagcttta gatgagaatg gccatgatct tgctgttaacc 720

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ccaaaaagat ctaggagaga ttttgggctt gattgtatg aacactccac agaatctcga 840

tgctgtcgct acccccctcac ggtggatttt gaagctttg gatgggattg gattattgca 900

cctaaaaagat ataaggccaa ttactgctct ggagaatgtg aatttgattt tttgcaaaag 960

tatcctcata cccatcttgt gcaccaagca aaccccagag gttcagccgg cccctgctgt 1020

actcctacaa agatgtctcc aattaatatg cttatattta atggcgaagg acaaataata 1080

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1128

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Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
35 40 45
Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80
Leu Pro Lys Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
85 90 95
Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110
Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
115 120 125
Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140
Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160
Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240
Phe Pro Glu Pro Gly Glu Asp Gly Leu Thr Pro Phe Leu Glu Val Lys
245 250 255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val

275	280	285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr		
290	295	300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys		
305	310	315
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala		
325	330	335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr		
340	345	350
Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val		
355	360	365
Val Asp Arg Cys Gly Cys Ser		
370	375	

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 <222> (1)...(60)

<220>
 <223> Description of Artificial Sequence: MYOS 1 peptide coding sequence,
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 Gly Ser Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys Asp Glu His Ser
 1 5 10 15

 acc gaa aga tct 60
 Thr Glu Arg Ser
 20

<210> 4
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: MYOS 1 peptide coding sequence,
 Figure 2

<400> 4
 Gly Ser Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys Asp Glu His Ser
 1 5 10 15

 Thr Glu Arg Ser
 20

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<210> 5
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 3 peptide coding sequence,
Figure 3

<220>
<221> CDS
<222> (1)..(51)

<400> 5
gga tcc tct cgt tgc tgt cgc tat ccg ctg acc gtt gac ttc gaa aga 48
Gly Ser Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp Phe Glu Arg
1 5 10 15

tct 51
Ser

<210> 6
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 3 peptide coding sequence,
Figure 3

<400> 6
Gly Ser Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp Phe Glu Arg
1 5 10 15

Ser

<210> 7
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 5 peptide coding sequence,
Figure 4

<220>
<221> CDS
<222> (1)..(57)

<400> 7
gga tcc ttc gaa gct ttt ggt tgg gac tgg atc att gca ccg aaa cgt 48
Gly Ser Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
1 5 10 15

tat aga tct 57
Tyr Arg Ser

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<210> 8
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 5 peptide coding sequence,
Figure 4

<400> 8
Gly Ser Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
1 5 10 15

Tyr Arg Ser

<210> 9
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 7 peptide coding sequence,
Figure 5

<220>
<221> CDS
<222> (1)...(54)

<400> 9
gga tcc aaa cgt tat aaa gct aac tat tgc tct ggt gaa tgc gaa ttc 48
Gly Ser Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe
1 5 10 15

aga tct 54
Arg Ser

<210> 10
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 7 peptide coding sequence,
Figure 5

<400> 10
Gly Ser Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe
1 5 10 15

Arg Ser

<210> 11
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 9 peptide coding sequence,
Figure 6

<220>
<221> CDS
<222> (1)..(72)

<400> 11
gga tcc gaa ttc gtt ttc ctg cag aaa tat ccg cat acc cat ctg gtt 48
Gly Ser Glu Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val
1 5 10 15

cat cag gct aac ccg cgt aga tct 72
His Gln Ala Asn Pro Arg Arg Ser
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<210> 12
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 9 peptide coding sequence,
Figure 6

<400> 12
Gly Ser Glu Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val
1 5 10 15

His Gln Ala Asn Pro Arg Arg Ser
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<210> 13
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 11 peptide coding sequence,
Figure 7

<220>
<221> CDS
<222> (1)..(81)

<400> 13
gga tcc gct ggt ccg tgc tgt tat ccg acc aaa atg tct ccg atc aac 48
Gly Ser Ala Gly Pro Cys Cys Tyr Pro Thr Lys Met Ser Pro Ile Asn
1 5 10 15

atg ctg tat ttc aac ggt gaa tgc cag aga tct 81
Met Leu Tyr Phe Asn Gly Glu Cys Gln Arg Ser
20 25

<210> 14
<211> 27
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MYOS 11 peptide coding sequence,
Figure 7

<400> 14

Gly Ser Ala Gly Pro Cys Cys Tyr Pro Thr Lys Met Ser Pro Ile Asn
1 5 10 15

Met Leu Tyr Phe Asn Gly Glu Cys Gln Arg Ser
20 25

<210> 15

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MYOS 13 peptide coding sequence,
Figure 8

<220>

<221> CDS

<222> (1)..(72)

<400> 15

gga tcc gaa tgc cag atc att tat tgc aaa atc ccg gct atg gtt gta 48
Gly Ser Glu Cys Gln Ile Ile Tyr Cys Lys Ile Pro Ala Met Val Val
1 5 10 15

gac cgt tgc ggt tgt tct aga tct 72
Asp Arg Cys Gly Cys Ser Arg Ser
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<210> 16

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MYOS 13 peptide coding sequence,
Figure 8

<400> 16

Gly Ser Glu Cys Gln Ile Ile Tyr Cys Lys Ile Pro Ala Met Val Val
1 5 10 15

Asp Arg Cys Gly Cys Ser Arg Ser
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<210> 17

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MYOS 15 peptide coding sequence,

Figure 9

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<220>
<221> CDS
<222> (1)..(63)

<400> 17
gga tcc gaa cag aaa gaa aac gtt gaa aaa gaa ggt ctg tgc aac gct 48
Gly Ser Glu Gln Lys Glu Asn Val Glu Lys Glu Gly Leu Cys Asn Ala
 1           5           10           15

tgc ctg tgg aga tct
Cys Leu Trp Arg Ser
 20

<210> 18
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 15 peptide coding sequence,
Figure 9

<400> 18
Gly Ser Glu Gln Lys Glu Asn Val Glu Lys Glu Gly Leu Cys Asn Ala
 1           5           10           15

Cys Leu Trp Arg Ser
 20

<210> 19
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MYOS 17 peptide coding sequence,
Figure 10

<220>
<221> CDS
<222> (1)..(60)

<400> 19
gga tcc cat gac ctg gct gtt acc ttc ccg gaa ccg ggt gaa gac ggt 48
Gly Ser His Asp Leu Ala Val Thr Phe Pro Glu Pro Gly Glu Asp Gly
 1           5           10           15

ctg acc aga tct
Leu Thr Arg Ser
 20           60

<210> 20
<211> 20
<212> PRT
<213> Artificial Sequence
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<220>

<223> Description of Artificial Sequence: MYOS 17 peptide coding sequence,
Figure 10

<400> 20

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Leu	Thr	Arg	Ser												
			20												

<210> 21

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MYOS 19 peptide coding sequence,
Figure 11

<220>

<221> CDS

<222> (1)...(60)

<400> 21

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Gly	Ser	Thr	Pro	Phe	Leu	Glu	Val	Lys	Val	Thr	Asp	Thr	Pro	Lys	Arg	
1				5					10				15			

tct	cgt	aga	tct												60
Ser	Arg	Arg	Ser												
			20												

<210> 22

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MYOS 19 peptide coding sequence,
Figure 11

<400> 22

Gly	Ser	Thr	Pro	Phe	Leu	Glu	Val	Lys	Val	Thr	Asp	Thr	Pro	Lys	Arg	
1				5					10				15			

Ser	Arg	Arg	Ser													
			20													

<210> 23

<211> 372

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: reconstructed
myostatin active region, Figure 13

<220>
<221> CDS
<222> (1)..(372)

<400> 23
gga tcc cgt tct cgt cgc gac ttt ggt ctg gac tgc gac gaa cat tct 48
Gly Ser Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys Asp Glu His Ser
1 5 10 15

acc gaa aga tcc tct cgt tgt cgc tat ccg ctg acc gtt gac ttc 96
Thr Glu Arg Ser Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp Phe
20 25 30

gaa gct ttt ggt tgg gac tgg atc att gca ccg aaa cgt tat aga tcc 144
Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Arg Ser
35 40 45

aaa cgt tat aaa gct aac tat tgc tct ggt gaa tgc gaa ttc gtt ttc 192
Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe
50 55 60

ctg cag aaa tat ccg cat acc cat ctg gtt cat cag gct aac ccg cgt 240
Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg
65 70 75 80

aga tcc gct ggt ccg tgc tgt tat ccg acc aaa atg tct ccg atc aac 288
Arg Ser Ala Gly Pro Cys Cys Tyr Pro Thr Lys Met Ser Pro Ile Asn
85 90 95

atg ctg tat ttc aac ggt gaa tgc cag atc att tat tgc aaa atc ccg 336
Met Leu Tyr Phe Asn Gly Glu Cys Gln Ile Ile Tyr Cys Lys Ile Pro
100 105 110

gct atg gtt gta gac cgt tgc ggt tgt tct aga tct 372
Ala Met Val Val Asp Arg Cys Gly Cys Ser Arg Ser
115 120

<210> 24
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: reconstructed
myostatin active region, Figure 13

<400> 24
Gly Ser Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys Asp Glu His Ser
1 5 10 15

Thr Glu Arg Ser Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp Phe
20 25 30

Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Arg Ser
35 40 45

Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe
50 55 60

Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg

65	70	75	80													
Arg Ser Ala Gly Pro Cys Cys Tyr Pro Thr Lys Met Ser Pro Ile Asn																
85		90		95												
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100		105		110												
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115		120														
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<212> DNA																
<213> Artificial Sequence																
<220>																
<223> Description of Artificial Sequence: leukotoxin polypeptide carrier, Figures 15A-15D																
<220>																
<221> CDS																
<222> (1)..(1473)																
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Ile	Ile	Leu	Tyr	Ile	Pro	Gln	Asn	Tyr	Gln	Tyr	Asp	Thr	Glu	Gln	Gly	
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aat	ggg	tta	cag	gat	tta	gtc	aaa	gcg	gcc	gaa	gag	ttg	ggg	att	gag	144
Asn	Gly	Leu	Gln	Asp	Leu	Val	Lys	Ala	Ala	Glu	Glu	Leu	Gly	Ile	Glu	
35				40					45							
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Val	Gln	Arg	Glu	Glu	Arg	Asn	Asn	Ile	Ala	Thr	Ala	Gln	Thr	Ser	Leu	
50				55				60								
ggc	acg	att	caa	acc	gct	att	ggc	tta	act	gag	cgt	ggc	att	gtg	tta	240
Gly	Thr	Ile	Gln	Thr	Ala	Ile	Gly	Leu	Thr	Glu	Arg	Gly	Ile	Val	Leu	
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tcc	gct	cca	caa	att	gat	aaa	ttg	cta	cag	aaa	act	aaa	gca	ggc	caa	288
Ser	Ala	Pro	Gln	Ile	Asp	Lys	Leu	Leu	Gln	Lys	Thr	Lys	Ala	Gly	Gln	
85				90					95							
gca	tta	ggg	tct	gcc	gaa	agc	att	gta	caa	aat	gca	aat	aaa	gcc	aaa	336
Ala	Leu	Gly	Ser	Ala	Glu	Ser	Ile	Val	Gln	Asn	Ala	Asn	Lys	Ala	Lys	
100				105					110							
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Thr	Val	Leu	Ser	Gly	Ile	Gln	Ser	Ile	Leu	Gly	Ser	Val	Leu	Ala	Gly	
115				120					125							
atg	gat	tta	gat	gag	gcc	tta	cag	aat	aac	agc	aac	caa	cat	gct	ctt	432
Met	Asp	Leu	Asp	Glu	Ala	Leu	Gln	Asn	Asn	Ser	Asn	Gln	His	Ala	Leu	
130				135					140							

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gcc caa cgt gtt gca gca ggt tta tct tca act ggg cct gtg gct gct Ala Gln Arg Val Ala Ala Gly Leu Ser Ser Thr Gly Pro Val Ala Ala 260 265 270	816
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tat cag cgg gga aca ggg act att gat gca tcg gtt act gca att aat Tyr Gln Arg Gly Thr Gly Thr Ile Asp Ala Ser Val Thr Ala Ile Asn 325 330 335	1008
acc gca ttg gcc gct att gct ggt ggt gtg tct gct gct gca gcc gat Thr Ala Leu Ala Ala Ile Ala Gly Gly Val Ser Ala Ala Ala Asp 340 345 350	1056
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aaa gag aaa gtg acc att caa aac tgg ttc cga gag gct gat ttt gct Lys Glu Lys Val Thr Ile Gln Asn Trp Phe Arg Glu Ala Asp Phe Ala 370 375 380	1152
aaa gaa gtg cct aat tat aaa gca act aaa gat gag aaa atc gaa gaa	1200

Lys	Glu	Val	Pro	Asn	Tyr	Lys	Ala	Thr	Lys	Asp	Glu	Lys	Ile	Glu	Glu
385															400
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Ile	Ile	Gly	Gln	Asn	Gly	Glu	Arg	Ile	Thr	Ser	Lys	Gln	Val	Asp	Asp
								405		410				415	
ctt	atc	gca	aaa	ggt	aac	ggc	aaa	att	acc	caa	gat	gag	cta	tca	aaa
Leu	Ile	Ala	Lys	Gly	Asn	Gly	Lys	Ile	Thr	Gln	Asp	Glu	Leu	Ser	Lys
								420		425				430	

gtt	gtt	gat	aac	tat	gaa	ttg	ctc	aaa	cat	agc	aaa	aat	gtg	aca	aac
Val	Val	Asp	Asn	Tyr	Glu	Leu	Leu	Lys	His	Ser	Lys	Asn	Val	Thr	Asn
								435		440			445		
agc	tta	gat	aag	tta	atc	tca	tct	gta	agt	gca	ttt	acc	tcg	tct	aat
Ser	Leu	Asp	Lys	Leu	Ile	Ser	Ser	Val	Ser	Ala	Phe	Thr	Ser	Ser	Asn
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gat	tcg	aga	aat	gta	tta	gtg	gct	cca	act	tca	atg	ttg	gat	caa	agt
Asp	Ser	Arg	Asn	Val	Leu	Val	Ala	Pro	Thr	Ser	Met	Leu	Asp	Gln	Ser
								465		470			475		480
tta	tct	tct	ctt	caa	ttt	gct	agg	gga	tcc	tag					1473
Leu	Ser	Ser	Leu	Gln	Phe	Ala	Arg	Gly	Ser						
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<210> 26
 <211> 490
 <212> PRT
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<220>
 <223> Description of Artificial Sequence: leukotoxin polypeptide carrier,
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Asn Gly Leu Gln Asp Leu Val Lys Ala Ala Glu Glu Leu Gly Ile Glu
 35 40 45

Val Gln Arg Glu Glu Arg Asn Asn Ile Ala Thr Ala Gln Thr Ser Leu
 50 55 60

Gly Thr Ile Gln Thr Ala Ile Gly Leu Thr Glu Arg Gly Ile Val Leu
 65 70 75 80

Ser Ala Pro Gln Ile Asp Lys Leu Leu Gln Lys Thr Lys Ala Gly Gln
 85 90 95

Ala Leu Gly Ser Ala Glu Ser Ile Val Gln Asn Ala Asn Lys Ala Lys
 100 105 110

Thr Val Leu Ser Gly Ile Gln Ser Ile Leu Gly Ser Val Leu Ala Gly
 115 120 125
 Met Asp Leu Asp Glu Ala Leu Gln Asn Asn Ser Asn Gln His Ala Leu
 130 135 140
 Ala Lys Ala Gly Leu Glu Leu Thr Asn Ser Leu Ile Glu Asn Ile Ala
 145 150 155 160
 Asn Ser Val Lys Thr Leu Asp Glu Phe Gly Glu Gln Ile Ser Gln Phe
 165 170 175
 Gly Ser Lys Leu Gln Asn Ile Lys Gly Leu Gly Thr Leu Gly Asp Lys
 180 185 190
 Leu Lys Asn Ile Gly Gly Leu Asp Lys Ala Gly Leu Gly Leu Asp Val
 195 200 205
 Ile Ser Gly Leu Leu Ser Gly Ala Thr Ala Ala Leu Val Leu Ala Asp
 210 215 220
 Lys Asn Ala Ser Thr Ala Lys Lys Val Gly Ala Gly Phe Glu Leu Ala
 225 230 235 240
 Asn Gln Val Val Gly Asn Ile Thr Lys Ala Val Ser Ser Tyr Ile Leu
 245 250 255
 Ala Gln Arg Val Ala Ala Gly Leu Ser Ser Thr Gly Pro Val Ala Ala
 260 265 270
 Leu Ile Ala Ser Thr Val Ser Leu Ala Ile Ser Pro Leu Ala Phe Ala
 275 280 285
 Gly Ile Ala Asp Lys Phe Asn His Ala Lys Ser Leu Glu Ser Tyr Ala
 290 295 300
 Glu Arg Phe Lys Lys Leu Gly Tyr Asp Gly Asp Asn Leu Leu Ala Glu
 305 310 315 320
 Tyr Gln Arg Gly Thr Gly Thr Ile Asp Ala Ser Val Thr Ala Ile Asn
 325 330 335
 Thr Ala Leu Ala Ala Ile Ala Gly Gly Val Ser Ala Ala Ala Asp
 340 345 350
 Leu Thr Phe Glu Lys Val Lys His Asn Leu Val Ile Thr Asn Ser Lys
 355 360 365
 Lys Glu Lys Val Thr Ile Gln Asn Trp Phe Arg Glu Ala Asp Phe Ala
 370 375 380
 Lys Glu Val Pro Asn Tyr Lys Ala Thr Lys Asp Glu Lys Ile Glu Glu
 385 390 395 400
 Ile Ile Gly Gln Asn Gly Glu Arg Ile Thr Ser Lys Gln Val Asp Asp
 405 410 415
 Leu Ile Ala Lys Gly Asn Gly Lys Ile Thr Gln Asp Glu Leu Ser Lys
 420 425 430
 Val Val Asp Asn Tyr Glu Leu Leu Lys His Ser Lys Asn Val Thr Asn

435	440	445
Ser Leu Asp Lys Leu Ile Ser Ser Val Ser Ala Phe Thr Ser Ser Asn		
450	455	460
Asp Ser Arg Asn Val Leu Val Ala Pro Thr Ser Met Leu Asp Gln Ser		
465	470	475
Leu Ser Ser Leu Gln Phe Ala Arg Gly Ser		
485	490	
 <210> 27		
<211> 376		
<212> PRT		
<213> Mus musculus		
 <400> 27		
Met Met Gln Lys Leu Gln Met Tyr Val Tyr Ile Tyr Leu Phe Met Leu		
1	5	10
		15
Ile Ala Ala Gly Pro Val Asp Leu Asn Glu Gly Ser Glu Arg Glu Glu		
20	25	30
Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn		
35	40	45
Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys		
50	55	60
Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln		
65	70	75
		80
Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp		
85	90	95
Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr		
100	105	110
His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe		
115	120	125
Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser		
130	135	140
Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr		
145	150	155
		160
Leu Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg		
165	170	175
Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser		
180	185	190
Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp		
195	200	205
Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu		
210	215	220
Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val		
225	230	235
		240

Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
245 250 255

Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
260 265 270

Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
275 280 285

Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
290 295 300

Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305 310 315 320

Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
325 330 335

Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
340 345 350

Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
355 360 365

Val Val Asp Arg Cys Gly Cys Ser
370 375

<210> 28

<211> 376

<212> PRT

<213> Rattus norvegicus

<400> 28

Met Ile Gln Lys Pro Gln Met Tyr Val Tyr Ile Tyr Leu Phe Val Leu
1 5 10 15

Ile Ala Ala Gly Pro Val Asp Leu Asn Glu Asp Ser Glu Arg Glu Ala
20 25 30

Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn
35 40 45

Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
50 55 60

Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln
65 70 75 80

Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
85 90 95

Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Tyr
100 105 110

His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
115 120 125

Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
130 135 140

Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
145 150 155 160

Leu Arg Ala Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg
165 170 175

Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser
180 185 190

Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp
195 200 205

Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu
210 215 220

Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val
225 230 235 240

Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
245 250 255

Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
260 265 270

Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
275 280 285

Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
290 295 300

Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305 310 315 320

Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
325 330 335

Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
340 345 350

Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
355 360 365

Val Val Asp Arg Cys Gly Cys Ser
370 375

<210> 29
<211> 375
<212> PRT
<213> Homo sapiens

<400> 29
Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu Ile
1 5 10 15

Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
20 25 30

Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
245 250 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Asp Phe Gly Leu Asp Cys
260 265 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
340 345 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
355 360 365

Val Asp Arg Cys Gly Cys Ser
370 375

<210> 30
<211> 375
<212> PRT
<213> Papio hamadryas

<400> 30
Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu Ile
1 5 10 15

Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
20 25 30

Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Pro Val Glu Thr Pro Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
245 250 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285

Asp Phe Glu Ala Leu Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
340 345 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
355 360 365

Val Asp Arg Cys Gly Cys Ser
370 375

<210> 31

<211> 375

<212> PRT

<213> bos taurus

<400> 31

Met Gln Lys Leu Gln Ile Ser Val Tyr Ile Tyr Leu Phe Met Leu Ile
1 5 10 15

Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
20 25 30

Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
35 40 45

Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu Pro Arg Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
85 90 95

Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
115 120 125

Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240

Phe Pro Glu Pro Gly Glu Asp Gly Leu Thr Pro Phe Leu Glu Val Lys
245 250 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
340 345 350

Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
355 360 365

Val Asp Arg Cys Gly Cys Ser
370 375

<210> 32

<211> 375

<212> PRT

<213> Sus scrofa

<400> 32

Met Gln Lys Leu Gln Ile Tyr Val Tyr Ile Tyr Leu Phe Met Leu Ile
1 5 10 15

Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
20 25 30

Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Met Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu	Pro	Arg	Ala	Pro	Pro	Leu	Arg	Glu	Leu	Ile	Asp	Gln	Tyr	Asp	Val
						85			90					95	
Gln	Arg	Asp	Asp	Ser	Ser	Asp	Gly	Ser	Leu	Glu	Asp	Asp	Asp	Tyr	His
						100			105				110		
Ala	Thr	Thr	Glu	Thr	Ile	Ile	Thr	Met	Pro	Thr	Glu	Ser	Asp	Leu	Leu
						115			120				125		
Met	Gln	Val	Glu	Gly	Lys	Pro	Lys	Cys	Cys	Phe	Phe	Lys	Phe	Ser	Ser
						130			135				140		
Lys	Ile	Gln	Tyr	Asn	Lys	Val	Val	Lys	Ala	Gln	Leu	Trp	Ile	Tyr	Leu
						145			150				155		160
Arg	Pro	Val	Lys	Thr	Pro	Thr	Thr	Val	Phe	Val	Gln	Ile	Leu	Arg	Leu
						165			170					175	
Ile	Lys	Pro	Met	Lys	Asp	Gly	Thr	Arg	Tyr	Thr	Gly	Ile	Arg	Ser	Leu
						180			185					190	
Lys	Leu	Asp	Met	Asn	Pro	Gly	Thr	Gly	Ile	Trp	Gln	Ser	Ile	Asp	Val
						195			200				205		
Lys	Thr	Val	Leu	Gln	Asn	Trp	Leu	Lys	Gln	Pro	Glu	Ser	Asn	Leu	Gly
						210			215				220		
Ile	Glu	Ile	Lys	Ala	Leu	Asp	Glu	Asn	Gly	His	Asp	Leu	Ala	Val	Thr
						225			230				235		240
Phe	Pro	Gly	Pro	Gly	Glu	Asp	Gly	Leu	Asn	Pro	Phe	Leu	Glu	Val	Lys
						245			250					255	
Val	Thr	Asp	Thr	Pro	Lys	Arg	Ser	Arg	Arg	Asp	Phe	Gly	Leu	Asp	Cys
						260			265					270	
Asp	Glu	His	Ser	Thr	Glu	Ser	Arg	Cys	Cys	Arg	Tyr	Pro	Leu	Thr	Val
						275			280				285		
Asp	Phe	Glu	Ala	Phe	Gly	Trp	Asp	Trp	Ile	Ile	Ala	Pro	Lys	Arg	Tyr
						290			295				300		
Lys	Ala	Asn	Tyr	Cys	Ser	Gly	Glu	Cys	Glu	Phe	Val	Phe	Leu	Gln	Lys
						305			310				315		320
Tyr	Pro	His	Thr	His	Leu	Val	His	Gln	Ala	Asn	Pro	Arg	Gly	Ser	Ala
						325							330		335
Gly	Pro	Cys	Cys	Thr	Pro	Thr	Lys	Met	Ser	Pro	Ile	Asn	Met	Leu	Tyr
						340			345					350	
Phe	Asn	Gly	Lys	Glu	Gln	Ile	Ile	Tyr	Gly	Lys	Ile	Pro	Ala	Met	Val
						355			360				365		
Val	Asp	Arg	Cys	Gly	Cys	Ser									
						370			375						

<210> 33
<211> 375

<212> PRT
<213> Ovis aries

<400> 33
Met Gln Lys Leu Gln Ile Phe Val Tyr Ile Tyr Leu Phe Met Leu Leu
1 5 10 15
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
20 25 30
Val Glu Lys Lys Gly Leu Cys Asn Ala Cys Leu Trp Arg Gln Asn Asn
35 40 45
Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80
Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110
Val Thr Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
115 120 125
Ala Glu Val Gln Glu Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140
Lys Ile Gln His Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160
Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240
Phe Pro Glu Pro Gly Glu Glu Gly Leu Asn Pro Phe Leu Glu Val Lys
245 250 255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Leu Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Lys Gly Ser Ala
325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
340 345 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Gly Met Val
355 360 365

Val Asp Arg Cys Gly Cys Ser
370 375

<210> 34

<211> 375

<212> PRT

<213> Gallus gallus

<400> 34

Met Gln Lys Leu Ala Val Tyr Val Tyr Ile Tyr Leu Phe Met Gln Ile
1 5 10 15

Ala Val Asp Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn
20 25 30

Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
65 70 75 80

Leu Pro Arg Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
 210 215 220

Ile Glu Ile Lys Ala Phe Asp Glu Thr Gly Arg Asp Leu Ala Val Thr
 225 230 235 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
 245 250 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
 260 265 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
 275 280 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
 290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
 305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
 325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
 340 345 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
 355 360 365

Val Asp Arg Cys Gly Cys Ser
 370 375

<210> 35
 <211> 375
 <212> PRT
 <213> Meleagris gallopavo

<400> 35
 Met Gln Ile Leu Ala Val Tyr Val Tyr Ile Tyr Leu Phe Met Gln Ile
 1 5 10 15

Leu Val His Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn
 20 25 30

Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
 35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
 50 55 60

Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
 65 70 75 80

Leu Pro Arg Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
 85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
 100 105 110

Ala Thr Thr Glu Thr Ile Ile Met Pro Thr Glu Ser Asp Phe Leu
 115 120 125
 Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
 130 135 140
 Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
 145 150 155 160
 Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
 165 170 175
 Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
 180 185 190
 Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
 195 200 205
 Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
 210 215 220
 Ile Glu Ile Lys Ala Phe Asp Glu Asn Gly Arg Asp Leu Ala Val Thr
 225 230 235 240
 Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
 245 250 255
 Val Thr Asp Thr Pro Lys Arg Ser Arg Asp Phe Gly Leu Asp Cys
 260 265 270
 Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
 275 280 285
 Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
 290 295 300
 Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
 305 310 315 320
 Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
 325 330 335
 Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
 340 345 350
 Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
 355 360 365
 Val Asp Arg Cys Gly Cys Ser
 370 375

<210> 36
 <211> 374
 <212> PRT
 <213> Danio rerio

<400> 36
 Met His Phe Thr Gln Val Leu Ile Ser Leu Ser Val Leu Ile Ala Cys
 1 5 10 15

Gly Pro Val Gly Tyr Gly Asp Ile Thr Ala His Gln Gln Pro Ser Thr
 20 25 30

Ala Thr Glu Glu Ser Glu Leu Cys Ser Thr Cys Glu Phe Arg Gln His
 35 40 45

Ser Lys Leu Met Arg Leu His Ala Ile Lys Ser Gln Ile Leu Ser Lys
 50 55 60

Leu Arg Leu Lys Gln Ala Pro Asn Ile Ser Arg Asp Val Val Lys Gln
 65 70 75 80

Leu Leu Pro Arg Ala Pro Pro Leu Gln Gln Leu Leu Asp Gln Tyr Asp
 85 90 95

Val Leu Gly Asp Asp Ser Lys Asp Gly Ala Val Glu Glu Asp Asp Glu
 100 105 110

His Ala Thr Thr Glu Thr Ile Met Thr Met Ala Thr Glu Pro Asp Pro
 115 120 125

Ile Val Gln Val Asp Arg Lys Pro Lys Cys Cys Phe Phe Ser Phe Ser
 130 135 140

Pro Lys Ile Gln Ala Asn Arg Ile Val Arg Ala Gln Leu Trp Val His
 145 150 155 160

Leu Arg Pro Ala Glu Glu Ala Thr Thr Val Phe Leu Gln Ile Ser Arg
 165 170 175

Leu Met Pro Val Lys Asp Gly Gly Arg His Arg Ile Arg Ser Leu Lys
 180 185 190

Ile Asp Val Asn Ala Gly Val Thr Ser Trp Gln Ser Ile Asp Val Lys
 195 200 205

Gln Val Leu Thr Val Trp Leu Lys Gln Pro Glu Thr Asn Arg Gly Ile
 210 215 220

Glu Ile Asn Ala Tyr Asp Ala Lys Gly Asn Asp Leu Ala Val Thr Ser
 225 230 235 240

Thr Glu Thr Gly Glu Asp Gly Leu Leu Pro Phe Met Glu Val Lys Ile
 245 250 255

Ser Glu Gly Pro Lys Arg Ile Arg Arg Asp Ser Gly Leu Asp Cys Asp
 260 265 270

Glu Asn Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
 275 280 285

Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
 290 295 300

Ala Asn Tyr Cys Ser Gly Glu Cys Asp Tyr Met Tyr Leu Gln Lys Tyr
 305 310 315 320

Pro His Thr His Leu Val Asn Lys Ala Ser Pro Arg Gly Thr Ala Gly
 325 330 335

Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
340 345 350

Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met Val Val
355 360 365

Asp Arg Cys Gly Cys Ser
370

<210> 37
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: myostatin peptide

<400> 37
Lys Arg Ser Arg Arg Asp
1 5

<210> 38
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: myostatin peptide

<400> 38
Lys Glu Asn Val Glu Lys Glu
1 5

<210> 39
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: mystatin peptide

<400> 39
Ser Leu Lys Asp Asp Asp
1 5